

REMARKS

This Amendment is in response to the Office Action dated December 13, 2005 in which claims 1-7 and 9-19 were initially rejected and claim 8 was indicated as being allowable if rewritten in independent form. Applicant would like to thank the Examiner for the indicated allowability of the subject matter in claim 8 and respectfully requests reconsideration and allowance of the remaining claims in view of the above-amendments and the following remarks.

I. CLAIM REJECTIONS UNDER §102

Claims 1-7 were rejected under §102(b) as being anticipated by Paulson, U.S. Patent No. 6,112,319.

A. **Independent Claim 1**

Independent claim 1 is directed to a method of requesting data from a host over a data bus. The method compares a first data write request with a later received second data write request. The first data write request identifies first and second data to be written, and the second data write request identifies third and fourth data to be written. The third data overwrites the second data.

Claim 1 is amended to recite the step of sending at least one request to the host to transmit the first data, the third data, and the fourth data over the data bus without sending a request to transmit the second data. Thus, only part of the data (the first data) of the first data write request is requested to be transmitted.

Independent claim 1 is also amended to recite the step of indicating to the host that the first data write request and the second data write request have been preformed without receiving the second data from the host.

B. Paulson

Paulson does not send requests to a host for some of the data identified in a data write request but not other data (data being overwritten by a subsequent data write request). Rather, Paulson has a linked list of write requests and manages the list to prevent conflicts with subsequent reads or writes that are performed out of sequence. (Column 1, lines 29-42). For example, "if a write request passes an earlier read request, then the data retrieved in satisfaction of the read request may be the data stored by the later write request." (Column 1, lines 39-42).

The request data structure consists of a linked list of address cells. Each address cell represents a particular memory location for which a write request has been received, and it contains a linked list of data cells. (Column 7, lines 2-5). For each write request, a routine creates a new address cell if one does not yet exist for the address, and stores the data to be written in either a new or existing data cell for the address. (Column 7, lines 15-18). If the write address is not a new address and if there is not a pending read to that same address, the routine replaces the data in the first data cell with the new data of the new write request. (Column lines 36-48).

Paulson do not anticipate the step of sending at least one request to a host to transmit data identified in the data write requests. Rather, the data is stored in the linked list with the write request. Paulson also does not disclose sending at least one request to the host to transmit first data (identified by the first data write request) and third and fourth data (identified by the second data write request) without sending a request to transmit the second data (also identified by the first data write request).

Similarly, Paulson do not anticipate indicating to the host that first and second data write requests have been performed without receiving the second data from the host.

C. Dependent Claims 2-7

Dependent claims 2-7 add further limitations that are not anticipated by Paulson within the context of independent claim 1. For example, with respect to dependent claim 2, Paulson does not anticipate sending a first request to a host identifying a first data write request and requesting the first data without requesting the second data that is also identified by the first data write request.

Since Paulson does not anticipate each and every element of independent claim 1, Applicant respectfully requests that the rejection of claim 1 and its dependent claims 2-7 under §102(b) based on Paulson be withdrawn.

II. CLAIM REJECTIONS UNDER §103

Claims 9-19 were rejected under §103(a) as being unpatentable over Paulson in view of Mackenthun et al., U.S. Patent No. 6,374,332.

A. Claims 9-16

Independent claim 9 is directed to a method of transferring data from a host to a disc drive over a bus. The method includes the step of queuing a plurality of data write requests. Each data write request identifies one or more logical block address (LBAs) at which to write associated data on the disc drive.

The method determines first LBAs identified by a first received data write request that are not overwritten by later received data write requests in the queue. The method sends at least one data transfer request to the host to transmit over the bus only the data associated with the first LBAs of the first data write request. Other LBAs of the first data write request (i.e., LBAs that are overwritten by later received data write requests) are not requested to be transmitted over the bus.

As discussed above, Paulson does not anticipate sending at least one data transfer request to a host to transmit data

associated with data write requests and does not anticipate sending data transfer requests to transmit only the data associated with those LBAs that are not overwritten by later received data write requests. Paulson does not anticipate sending a data transfer request to the host to transmit only some of the data associated with a data write request without requesting the transmission of other data associated with data write request.

The Office Action suggests Mackenthun et al. disclose a method of preventing a previously-issued request from overwriting data provided by a recently issued request, citing column 17, lines 52-66. The Office Action concludes it would have been obvious to incorporate Mackenthun's teaching into Paulson's system so as to improve the system of maintaining cash coherency in a data processing system.

Mackenthun et al. simply state,

However, to maintain data consistency, write operations must be performed in the order in which they are issued. This prevents a previously-issued request from overwriting data provided by a more recently-issued request.

Mackenthun et al. therefore suggest that write operations must be performed in sequence. Mackenthun et al. do not say anything about sending at least one data transfer request to a host to transmit over a bus only the data associated with logical block address of a data write request that are not overwritten by later received by data write requests. Thus, even if the references were combined as suggested in the Office Action, the resulting combination would still fail to teach or suggest all of the elements of independent claim 9 and its dependent claims 10-16. This same deficiency is further reflected in the various dependent claims 10-16.

Accordingly, Applicant respectfully request that the rejection of claim 9 and its dependent claims 10-16 under §103(a) based on Paulson and Mackenthun et al. be withdrawn.

B. Claims 17-19

Independent claim 17 is directed to a bus-connected data storage device. The data storage device includes a queue for receiving a plurality of data write requests from a host computer. The data storage device further includes means for comparing the data write requests in the queue and requesting only data identified by the data write requests that are not overwritten by later received data write requests in the queue.

The Office Action acknowledges that Paulson does not disclose means for requesting only data identified by the data write requests that are not overwritten by later received data write requests in the queue.

As discussed above, Mackenthun et al. simply suggest that to maintain data consistency, write operations must be performed in the order in which they are issued. Mackenthun et al. do not teach or suggest means for requesting only data identified by data write requests that are not overwritten by later received data write requests in a queue.

Accordingly, Applicant respectfully request that the rejection of claim 17 and its dependent claims 18-19 under §103(a) based on Paulson and Mackenthun et al. be withdrawn.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,
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